REMARKS

Claims 1-97, as amended, remain herein. Claims 7, 11, 16-17, 26-27, 30-31, 34, 36, 39, 48-49, 57, 66-67 and 73-78 have been amended hereby.

This Preliminary Amendment is submitted to eliminate multiply dependent claims from the above-identified application.

Examination of this application on its merits is respectfully requested.

Respectfully submitted,

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Date

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Attachment:
Mark Up of Amended Claims

RWP/ame

Attorney Docket No. OGOH:113

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ultrasonic or megasonic waves for the vibration applied to the sealing resin.

4. The method for manufacturing a liquid crystal element according to claim 1, wherein the foreign matter elimination step comprises:

a bubble elimination sub-step of contacting and wiping the resin of the injection port portion with a solid to eliminate portions into which bubbles are mixed, which is carried out during or after the low-viscosity resin application step; and

a reapplication sub-step of reapplying resin.

5. The method for manufacturing a liquid crystal element according to claim 1, wherein the foreign matter elimination step comprises a low-pressure step of exposing the applied sealing resin to a pressure that is at least lower than atmospheric pressure, which is carried out during or after the low-viscosity resin application step.

6. The method for manufacturing a liquid crystal element according to claim 1, wherein the foreign matter elimination step comprises an acceleration step of subjecting the resin to an acceleration toward an opposite liquid crystal side, which is carried out after the low-viscosity resin application step.

7. The method for manufacturing a liquid crystal element according to ~~any of claims 1 to 6~~ claim 1, wherein the foreign matter

elimination step includes an infrared light irradiation sub-step of irradiating infrared light in order to lower the viscosity of the applied sealing resin by heating it.

8. A liquid crystal element, in which liquid crystal is held by two substrates above and below it in a space enclosed by a wall, comprising:

wherein, in a portion that seals the space after filling liquid crystal into it, a resin is used comprised that has a viscosity of not more than 20 Pa s at a predetermined temperature of at least 40°C when it is uncured and that can be cured by electromagnetic waves; and

wherein the cured resin dues not include optically foreign matter, such as water, air or dust.

9. The liquid crystal element according to claim 8, wherein the resin curable by electromagnetic waves is a UV-light curing resin.

10. The liquid crystal element according to claim 8, wherein the resin curable by electromagnetic waves is an anaerobic resin.

11. The liquid crystal element according to ~~any of claims 8 to 10~~ claim 8, wherein the resin curable by electromagnetic waves is a resin that softens to 20 Pa s or less at a temperature of 50 °C or more.

12. A liquid crystal element, in which liquid crystal is held by

the inner side of the two substrates is changed by applying a predetermined voltage between the three electrodes,

comprising a neutralization electrode for neutralizing a charge of ions in the liquid crystal layer, provided on one or both of the substrates.

16. The liquid crystal element according to ~~any of claims 13 to 15~~ claim 13, wherein the neutralization electrode is a conductive light-blocking neutralization electrode, which is made of a conductive material and also serves as a light-blocking film.

17. The liquid crystal element according to ~~any of claims 13 to 15~~ claim 13, wherein the neutralization electrode contacts the liquid crystal layer directly, via the orientation film(s), via a thin film not thicker than 1000 , or via a film that is transmissive to ions.

18. The liquid crystal element according to claim 16, wherein the neutralization electrode contacts the liquid crystal layer directly, via the orientation film(s), via a thin film not thicker than 1000 , or via a film that is transmissive to ions.

19. An in-plane electric field mode liquid crystal element comprising a pair of substrates on at least one of which a pixel electrode, a common electrode, a signal line and a scanning line are formed, and a liquid crystal layer sandwiched via orientation films provided on the inner sides of the two substrates;

the liquid crystal element comprising, on a substrate side on

electrode;

the liquid crystal element comprising, on an opposing substrate side on which the pixel electrode, etc., are not formed, a light-blocking film of a structure with protrusions/recesses in a surface on the liquid crystal layer side.

25. A liquid crystal element comprising a pair of substrates on at least one of which a pixel electrode, a common electrode, a signal line and a scanning line are formed, an opposing substrate in which an opposing electrode is formed in opposition to the pixel electrode, and a liquid crystal layer sandwiched via orientation films provided on the inner sides of the two substrates, wherein an alignment of the liquid crystal molecules is changed by applying a voltage between the pixel electrode, the common electrode and the opposing electrode;

the liquid crystal element comprising, on an opposing substrate side on which the pixel electrode, etc., are formed, a light-blocking film of a structure with protrusions/recesses in a surface on the liquid crystal layer side.

26. The in-plane electric field mode liquid crystal element according to ~~any of claims 19, 20, 24 and 25~~ claim 19, wherein the light-blocking film is a conductive light-blocking film made of a conductive material.

27. The in-plane electric field mode liquid crystal element according to ~~any of claims 19 to 25~~ claim 19, wherein the liquid

crystal layer is a low specific resistance liquid crystal layer using a liquid crystal with a specific resistance that is lower than 10^{13} Ω cm.

28. The in-plane electric field mode liquid crystal element according to claim 26, wherein the liquid crystal layer is a low specific resistance liquid crystal layer using a liquid crystal with a specific resistance that is lower than 10^{13} Ω cm.

29. A color filter used in a display device in which a liquid crystal is driven in in-plane electric field mode;

wherein a surface of a light-blocking film portion on a liquid crystal layer side has a structure with protrusions/recessions.

30. The liquid crystal element according to claim 19, ~~20, 24 or 25,~~ wherein a difference between the recessions and the protrusions in the protrusion/recession structure of the light-blocking film is at least 0.1 μm.

31. The liquid crystal element according to claim 19, ~~20, 24 or 25,~~ wherein a difference between the recessions and the protrusions in the protrusion/recession structure of the light-blocking film is at least 0.3 μm.

32. The liquid crystal element according to claim 26, wherein a difference between the recessions and the protrusions in the protrusion/recession structure of the light-blocking film is at least

0.3 μm.

33. The liquid crystal element according to claim 27, wherein a difference between the recessions and the protrusions in the protrusion/recession structure of the light-blocking film is at least 0.3 μm.

34. The liquid crystal element according to claim 21 ~~or 22~~, wherein a difference between the recessions and the protrusions in the protrusion/recession structure of the neutralization electrode is at least 0.1 μm.

35. The liquid crystal element according to claim 27, wherein a difference between the recessions and the protrusions in the protrusion/recession structure of the light-blocking film is at least 0.3 μm.

36. The liquid crystal element according to ~~any of claims 19, 20, 24 and 25~~ claim 19, wherein the light-blocking film contacts the liquid crystal directly or via the orientation films.

37. The liquid crystal element according to claim 23, wherein the light-blocking film contacts the liquid crystal directly or via the orientation films.

38. The liquid crystal element according to claim 24, wherein the light-blocking film contacts the liquid crystal directly or via the

orientation films.

39. The liquid crystal element according to claim 21~~ or 22~~, wherein the neutralization electrode contacts the liquid crystal directly or via the orientation films.

40. The liquid crystal element according to claim 23, wherein the neutralization electrode contacts the liquid crystal directly or via the orientation films.

41. An in-plane electric field mode liquid crystal element comprising:

a pair of substrates including, at least on one of the substrates, source signal lines and gate signal lines arranged in a matrix, switching elements arranged at intersections between the source signal lines and the gate signal lines, pixel electrodes connected to the switching elements, common electrodes facing the pixel electrodes, an insulating layer for insulation, etc., of these parts; and

a liquid crystal layer sandwiched via orientation films provided in principle on the inner side of the two substrates;

wherein the liquid crystal element comprises electrodes for holding a voltage of a predetermined relation to gates.

42. An in-plane electric field mode liquid crystal element comprising:

a pair of substrates including, at least on one of the

into a thin film, in which the total thickness of a film forming a third layer made of the insulating film and an orientation film arranged between the conductive layers and the liquid crystal layer is less than 1000 Å.

46. The liquid crystal element according to claim 45, wherein the region made into a thin film is located on at least one of the orientation film and the insulating film.

47. The liquid crystal element according to claim 45, wherein the region made into a thin film is on the orientation film or a protective film, and the orientation film or the protective film is made of a conductive material.

48. The liquid crystal element according to ~~any of claims 45, 46 and 47~~ claim 45, wherein the region made into a thin film is located on the pixel electrodes, the common electrodes or the signal lines.

49. The liquid crystal element according to ~~any of claims 45, 46 and 47~~ claim 45,

wherein the liquid crystal element includes a conductive light-blocking film; and

the region made into a thin film is located on the conductive light-blocking film.

50. The liquid crystal element according to claim 49, wherein the region made into a thin film is formed on a substrate opposing the

and the conductive layer are in direct contact is on the conductive light-blocking film.

54. The liquid crystal element according to claim 53, wherein the region the region made into a thin film is formed on a substrate opposing the substrate on which the pixel electrodes, etc., are formed.

55. A liquid crystal element, comprising:

a pair of substrates including, on one of the substrates, pixel electrodes, as well as opposing electrodes and signal lines not on the same layer as the pixel electrodes, and an insulating film for insulating, etc., these from one another; and

a liquid crystal layer sandwiched via orientation films provided in principle on the inner side of the two substrates;

wherein the insulating film is formed on either the pixel electrodes or the opposing electrodes, and is not formed at all on the other of the two.

56. The liquid crystal element according to claim 55, wherein the insulating film is formed along the direction of rubbing in the liquid crystal element.

57. The liquid crystal element according to ~~any of claims 45 to 47, 51 to 53, 55, and 56~~ claim 45, wherein the liquid crystal element is a low specific resistance liquid crystal layer using a liquid crystal with a specific resistance smaller than 10^{13} Ω cm.

the common electrodes;

wherein liquid crystal is sandwiched via orientation films provided on the inner side of the two substrates; and

wherein the in-plane electric field mode liquid crystal element comprises, on the other substrate, a conductive light-blocking film extending in the direction of the signal lines and in the direction of the scanning lines, and regions thereof are in contact with the liquid crystal layer via a thin film layer of 1000 Å or a film transmissive to ions arranged in a grid shape.

66. The in-plane electric field mode liquid crystal element according to ~~any of claims 60 to 65~~ claim 60, wherein the conductive portion of the conductive light-blocking film is made of Cr, Ti, or a conductive resin.

67. The in-plane electric field mode liquid crystal element according to ~~any of claims 60 to 65~~ claim 60, wherein the conductive light-blocking film is a light-blocking film made of a conductive resin.

68. The in-plane electric field mode liquid crystal element according to claim 66, wherein columns are formed at a predetermined site as spacers for holding a fixed spacing between the substrates of the liquid crystal element.

69. An in-plane electric field mode liquid crystal element comprising:

liquid crystal with a specific resistance of less than 10^{13} Ω cm.

74. The liquid crystal element according to ~~any of claims 69 to 72~~ claim 69, including a positive potential applying means for applying, to the neutralization electrode, a positive potential with respect to a minimum voltage level of the scanning line.

75. The liquid crystal element according to ~~any of claims 69 to 72~~ claim 69, wherein the neutralization electrode is an equipotential neutralization electrode that has been set to the same potential as the common electrode.

76. The liquid crystal element according to ~~any of claims 69 to 72~~ claim 69, wherein the neutralization electrode is a light-blocking film combined neutralization electrode that also serves as a light-blocking film.

77. The liquid crystal element according to ~~any of claims 69 to 72~~ claim 69, wherein the neutralization electrode is a color filter combined neutralization electrode that also serves as a color filter.

78. The liquid crystal element according to ~~any of claims 69 to 72~~ claim 69, wherein the insulating film has not been formed on a top portion of the pixel electrodes, the common electrodes, or the signal electrodes, so that the portion without the insulating film faces the liquid crystal layer via only the orientation film; and

wherein the orientation film is made of a conductive

substance.

79. The liquid crystal element according to claim 76, comprising a positive potential applying means for applying, to the neutralization electrode, a positive potential with respect to a minimum voltage level of the scanning line.

80. The liquid crystal element according to claim 77, comprising a positive potential applying means for applying, to the neutralization electrode, a positive potential with respect to a minimum voltage level of the scanning line.

81. The liquid crystal element according to claim 76, wherein the neutralization electrode is an equipotential neutralization electrode that has been set to the same potential as the common electrode.

82. The liquid crystal element according to claim 77, wherein the neutralization electrode is an equipotential neutralization electrode that has been set to the same potential as the common electrode.

83. A method for manufacturing an in-plane electric field mode liquid crystal element having a pair of substrates including, on at least one of the substrates, pixel electrodes for generating an in-plane electric field, common electrodes, and an insulating film for insulating, etc., these electrodes from one another, and a liquid